

LDX Series

SOFTWARE UPGRADABLE CAMERA PLATFORM

A revolutionary series of cameras built for business flexibility and operational excellence, with superior imaging, processing, and performance.



More than 50 years of imaging innovation has led to a new standard in live broadcast acquisition: the LDX Series™ of software upgradable cameras. LDX Flex™ is a single-format 1080i or 720p camera, LDX Première™ provides standard multiformat 1080i & 720p acquisition, LDX Elite™ adds 1080PsF, while LDX WorldCam™ rounds out the series with 1080p production. Upgrading to the next level camera can be permanent or on a 7-day basis for the ultimate in production flexibility.

The LDX Series cameras are the ultimate achievement based on a proud legacy capturing the world's historic moments. In live television, there are no second chances to make up missing details at the crucial moment of acquisition, and HD broadcasting is all about telling the story through those details.

The introduction of the next-generation Grass Valley® LDX Series provides a multitude of capabilities and benefits to users. The camera's reliability has been strenuously tested for the harsh demands of live production; its imaging is beyond imagination; a huge advance has been made in ease of use and special attention paid to the ergonomic design of the camera head.

Stunning Images

The LDX camera models provide stunning images, based upon new, custom-designed Xensium-FT 2/3-inch CMOS imagers. The renowned Grass Valley imaging design team engineered the new Xensium-FT CMOS imagers to make artifact-free capture possible along with a significant improvement in sensitivity.

To make images look their best, LDX incorporates TrueTexture™—a unique

feature to preserve texture throughout all processing parameters.

Another imaging innovation is ArtTouch™, an intuitive interface between the operator and hardwired controls, which significantly enhances artistic possibilities within a live broadcast. Looking back at the last five years in broadcasting, a lot has changed with respect to the way productions are being managed from an artistic point of view. To an increasing extent, there is a close collaboration between creative directors and the camera shaders, who adjust each camera feed to perfection.

With the LDX Series, a completely new level of artistic camera control is included, to support today's and tomorrow's requirements for live shading flexibility. By using the full latitude of the custom-designed Xensium-FT CMOS imager, control of every aspect of the image is available, so any degree of creative touch can be applied.

The LDX Series provides enhanced colorimetry, color-matching, and picture performance.

Color temperature and tint are just two of the parameters that can be simultaneously adjusted across multiple cameras. Knee saturation control maintains a correct hue by using secondary compression. Chromatic lens aberration correction (CLASS) is applied both vertically and horizontally (horizontally only for the LDX Flex), and offers impressive sharpness improvements on the left and right regions of the image. Other features assist in aperture correction, detail preservation, and more.

Designed for the Operator

In addition to establishing a new standard for image acquisition, the design of the LDX Series focuses strongly on operator comfort and usability. Grass Valley proudly introduces the world's first truly ergonomic shoulder pad (LDX Elite & LDX WorldCam). Not only does this shoulder pad provide the ultimate freedom to capture difficult angle shots, but is also the world's first shoulder pad that can compensate for a feature that's different for every operator—the angle of the shoulder.

Until now, most handheld camera operators unconsciously lifted their shoulder to level the shot. This means that they continuously tense their muscles to lift equipment, which regularly is a total weight of about 7 kg (15.4 lbs.). The new shoulder pad can be adjusted to compensate for each individual's shoulder angle—relieving the muscles from actively lifting the weight. The new shoulder pad has been developed in close cooperation with camera operators from around the world along with physiotherapists to alleviate adverse long-term effects.

The LDX Series offers even more operational excellence. Button layouts and control knobs are ergonomically designed to allow the operator to find the right adjustments easily. Full control flexibility is possible thanks to well-dimensioned control knobs. With the easily accessible separated "info" knob, all important information is displayed in the viewfinder instantaneously. The user-friendliness of LDX cameras has been further improved by using a streamlined menu structure that allows operators to access commonly used functions more quickly.

PRODUCT DATA SHEET

	LDX Flex SERIES can be upgraded to LDX Première*	LDX Première SERIES can be upgraded to LDX Elite*	LDX Elite SERIES can be upgraded to LDX WorldCam	LDX WorldCam SERIES
Imager	Next-generation Xensium-FT			
Sensitivity @ 2000 lux	F12 typical (all 50 Hz modes) / F11 typical (all 59.94 Hz modes)			
S/N ratio	60 dB (typical)			
Increased sensitivity	✓	✓	✓	✓
Improved digital noise reduction	✓	✓	✓	✓
TrueTexture: texture is preserved throughout all processing parameters	✓	✓	✓	✓
Single-format: 1080i50/59.94 or 720p50/59.94	✓			
Switchable video formats: 1080i50/59.94 and 720p50/59.94		✓		
Switchable video formats: 1080PsF25/29.97 (artistic), 1080i50/59.94, 720p50/59.94			✓	
Switchable video formats: 1080p50/59.94 (3G), 1080PsF 25/29.97 (artistic), 1080i50/59.94, 720p50/59.94				✓
Effortless 1080p50/59.94 acquisition with no increased lighting requirement				✓
Suitability for 3D productions		✓	✓	✓
ArtTouch: smart coupling of video control functions	✓	✓	✓	✓
Perfect picture matching across the complete LDX Series as well as the LDK installed base	✓	✓	✓	✓

* Multiple licenses may be purchased to upgrade more than one level (e.g., LDX Flex to LDX WorldCam), on a permanent or 7-day basis.

Engineered for the Bottom Line

The problem with buying a camera today is that you don't know what you'll need tomorrow. That leads to one of three outcomes: you'll be upgrading cameras in a few years, you've paid today for features you hope you'll use in a few years, or you got very lucky and bought today exactly what you need today and in the future.

The LDX Series changes all that. Buy what you need today, and upgrade to the next level camera or higher when you need it.

With the unique LDX Series GV-eLicense program, users now have the ultimate flexibility in format support and feature set availability. With GV-eLicense, LDX Series users have the choice of upgrading their cameras in two different ways. A permanent upgrade license provides an upgrade from any lower

model of the range to any higher model of the range. With a 7-day upgrade license, the same flexibility is available, but for a lower weekly cost. Multiple licenses may be purchased to upgrade cameras by more than one level (e.g., LDX Flex to LDX WorldCam) or to extend 7-day upgrade licenses.

Each of the four cameras in the LDX Series offers exceptional performance, with increased functionality as you go up the range. LDX Flex is a single-format 1080i or 720p camera, LDX Première provides standard multiformat 1080i & 720p acquisition, LDX Elite adds 1080PsF, while LDX WorldCam incorporates all of the features of the LDX Elite and adds effortless 1080p production as well—with the same sensitivity as shooting 1080i.

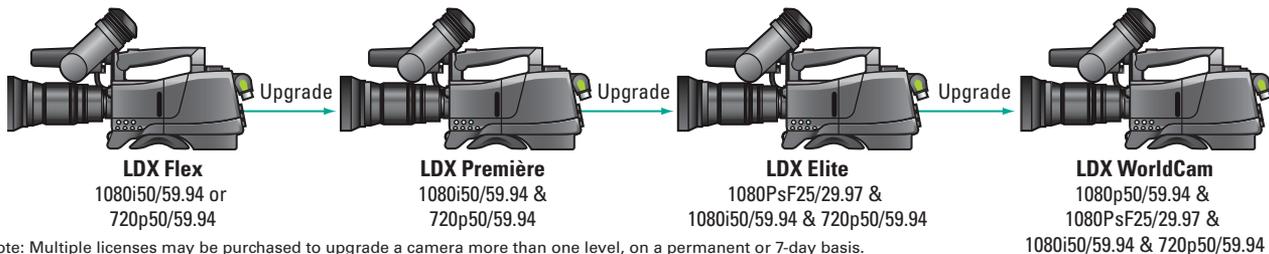
With the LDX Series, Grass Valley has paid particular attention to the ongoing

costs of operation. LDX cameras fully support Grass Valley's 3G Transmission triax and fiber camera transmission systems, and are fully integrated with our Ethernet-based C2IP camera control system and RefleX SuperXpander. In addition, Connect Gateway is a powerful link to remote production capabilities. This smart addition provides full remote control over all camera controls via any IP-link and includes DigiTally—an all-digital remote tally protocol over IP.

With the LDX Series, you now have a way to link camera CAPEX and OPEX with your business goals.

LDX is about more than just pretty pictures—LDX is built to face the realities of live production and broadcast—today and tomorrow.

The LDX Series... It's imaging, beyond imagination.



Note: Multiple licenses may be purchased to upgrade a camera more than one level, on a permanent or 7-day basis.

	LDX Flex SERIES can be upgraded to LDX Première*	LDX Première SERIES can be upgraded to LDX Elite*	LDX Elite SERIES can be upgraded to LDX WorldCam	LDX WorldCam SERIES
Ergonomically designed camera head with easy access to control buttons, including the new PickMe button	✓	✓	✓	✓
CLASS: horizontal electronic lens error correction	✓			
CLASS: horizontal and vertical electronic lens error correction		✓	✓	✓
Standard secondary color corrector (two-color)	✓	✓		
Advanced secondary color corrector (up to six sets for color hue, saturation, and luminance adjustment)			✓	✓
Fully compatible with 3G fiber/triax transmission systems	✓	✓	✓	✓
Compatible with C2IP control systems and RefleX SuperXpander	✓	✓	✓	✓
Second motorized optical filter wheel with 4P-star and soft focus		✓	✓	✓
Dynamic aperture correction	✓	✓	✓	✓
Dynamic contour equalizer		✓	✓	✓
Power curve gamma control			✓	✓
Depth of field indicator			✓	✓
New ComfortPad shoulder pad			✓	✓
Side grip			✓	✓

* Multiple licenses may be purchased to upgrade more than one level (e.g., LDX Flex to LDX WorldCam), on a permanent or 7-day basis.

SPECIFICATIONS

LDX Flex (Common to all LDX Series Cameras unless otherwise stated)

Camera Head

General:

- Power: 34W
- Temperature range: -20° to +45°C (-4° to 113°F) (operating)
- Weight:
 - LDX Flex and LDX Première: 2.1 kg (4.6 lbs.) (including handgrip and shoulder pad)
 - LDX Elite and LDX WorldCam: 2.5 kg (5.5 lbs.) (including handgrip and ComfortPad shoulder pad)
- Dimensions: width: 170 mm, depth: 200 mm, height: 180 mm (6.7 x 7.9 x 7.1 in.)

Camera:

- Pick-up device: 3x2/3" Xensium-FT CMOS
- Picture elements: 1920x1080
- Smear: no vertical smear
- Shutter: no mechanical shutter
- Optical system: F1.4 prism
- Lens mount: 2/3" Bayonet type
- Optical filter wheels: 2x motorized wheels (1x motorized wheel on LDX Flex)

- Optical filters on first wheel: clear, 1/4 ND, 1/16 ND, 1/64 ND
- Optical filters on second wheel (not available on LDX Flex): clear, 4P-star, soft focus
- Electronic color correction: 3200°K, 5600°K, 7500°K, FL, 2 AWB presets, Var, continuous auto white
- Exposure: electronic exposure down to 1/1000 sec

Video modes:

- Single-format: 1080i50/59.94 or 720p50/59.94 (selected at time of purchase)
- Sensitivity at 2000 lux:
 - F12 (1080i50, 720p50, and 1080p50)
 - F11 (1080i59.94, 720p59.94, and 1080p59.94)
 - F18 (1080PsF25)
 - F16 (1080PsF29.94)
- S/N ratio: 60 dB typical
- Aspect ratio: 16:9
- Modulation depth: 60% (typical) at 800 TV lines (27 MHz) in 1080i50/59.94 & 720p50/59.94 modes
- Gain selection: -6 dB to +30 dB in 3 dB steps (user-definable presets) or continuous master gain

Connectivity:

- Front microphone input: XLR-3 female, balanced, phantom +48V selectable
- USB
- Ethernet RJ-45
- Lens connector: Hirose 12-pin
- Viewfinder connector: 20-pin and HDMI

Control buttons:

- PickMe™
- Info
- Menu control
- Intercom production/engineering
- Filter wheel selection
- Standard file recall
- 4 user assignable

Control switches:

- On/off
- Color bar
- Gain selection
- Color temperature
- Exposure time
- White balance

Accessories

- 2" CRT viewfinder (b/w)
- 2.7" LCD viewfinder
- 7" LCD viewfinder
- 9" LCD viewfinder

Note: LDX Flex can be upgraded to LDX Première. Upgrades of more than one level may be achieved with multiple licenses.

LDX Première

Video Modes

Switchable: 1080i50/59.94 & 720p50/59.94

Note: LDX Première can be upgraded to LDX Elite. Upgrades of more than one level may be achieved with multiple licenses.

LDX Elite

Video Modes

Switchable: 1080PsF25/29.97, 1080i50/59.94 & 720p50/59.94

Note: LDX Elite can be upgraded to LDX WorldCam.

LDX WorldCam

Video Modes

Switchable: 1080p50/59.94, 1080PsF25/29.97, 1080i50/59.94 & 720p50/59.94



GV-eLicense PROGRAM

Permanent license: Permanent upgrade to the next camera in the range

7-day license: Temporary 7-day (weekly) upgrade to the next camera in the range

Multiple licenses may be purchased to upgrade cameras by more than one level (e.g., LDX Flex to LDX WorldCam). Multiple 7-day licenses may be purchased for extended temporary upgrades. No credit is given for the purchase of 7-day licenses towards the purchase of a perpetual license.

ORDERING INFORMATION

Please contact your authorized Grass Valley representative.

www.grassvalley.com/sales



MAXIMIZE AND OPTIMIZE YOUR INVESTMENT



With program production and distribution becoming ever more complex and affecting business issues on a daily basis, you need a trusted partner that understands those complexities and how to convert them into opportunities. Grass Valley's team of experienced engineers and system integrators can help you turn your challenges into opportunities in the most efficient and cost-effective way possible, from system design all the way through to commissioning. Grass Valley Professional Services helps you to:

Define: We consult with you to help define your business and technology requirements and then design the right solutions to meet them.

Deploy: Our professional service organization, backed by proven project management methodologies, can take you from design through deployment, commissioning, and training.

Support: We offer a complete portfolio of support services to keep your systems running, and help manage your long-term maintenance needs.

For information about Grass Valley, please visit www.grassvalley.com.

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